

(12) 按照专利合作条约所公布的国际申请

(19) 世界知识产权组织
国际局



(43) 国际公布日:
2005年7月14日(14.07.2005)

PCT

(10) 国际公布号:
WO 2005/064830 A1

- (51) 国际分类号: H04J 3/14
- (21) 国际申请号: PCT/CN2003/001128
- (22) 国际申请日: 2003年12月26日(26.12.2003)
- (25) 申请语言: 中文
- (26) 公布语言: 中文
- (71) 申请人(对除美国以外的所有指定国): 中兴通讯股份有限公司(ZTE CORPORATION) [CN/CN]; 中国广东省深圳市南山区高新技术产业园科技南路中兴通讯大厦, Guangdong 518057 (CN).
- (72) 发明人;及
- (75) 发明人/申请人(仅对美国): 孙长印(SUN, Changyin) [CN/CN]; 王云峰(WANG, Yunfeng) [CN/CN]; 中国广东省深圳市南山区高新技术产业园科技南路中兴通讯大厦, Guangdong 518057 (CN).
- (74) 代理人: 北京同立钧成知识产权代理有限公司(BEIJING LEADER PATENT AGENCY CO.,LTD); 中国北京市海淀区花园路13号道隆商务会馆, Beijing 100088, (CN).

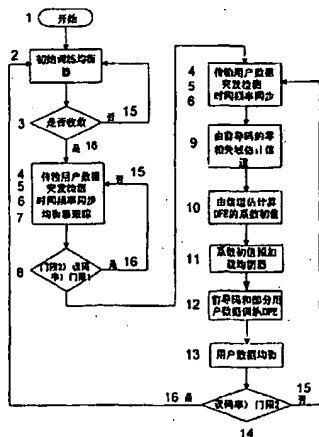
- (81) 指定国(国家): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
- (84) 指定国(地区): ARIPO专利(BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), 欧亚专利(AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), 欧洲专利(AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI专利(BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

本国际公布:
— 包括国际检索报告。

所引用双字母代码和其它缩写符号, 请参考刊登在每期PCT公报期刊起始的“代码及缩写符号简要说明”。

(54) Title: UPLINK BURST EQUALIZING METHOD IN BROAD WIDE ACCESS SYSTEM

(54) 发明名称: 宽带无线接入系统的上行突发均衡方法



- 1 START
- 2 INITIAL TRAINING EQUALIZER
- 3 CONVERGENCE OR NOT
- 4 TRANSFER USER DATA
- 5 BURST DETECTING
- 6 TIME FREQUENCY SYNCHRONIZING
- 7 EQUALIZER TRACKING
- 8 THRESHOLD 2 > ERROR RATE > THRESHOLD 1
- 9 ESTIMATE THE CHANNEL BY THE ZERO CORRELATION OF PILOT CODE
- 10 USING THE CHANNEL ESTIMATION TO CALCULATE THE INITIAL COEFFICIENT VALUE OF DFE
- 11 TO PRE-LOAD EQUALIZER WITH INITIAL COEFFICIENT VALUE
- 12 TRAINING THE DFE WITH PILOT CODE AND PORTION OF USER DATA
- 13 USER DATA EQUALIZATION
- 14 ERROR RATE > THRESHOLD 2
- 15 NO
- 16 YES

(57) Abstract: An equalizing method of uplink burst in the way of using pre-training sequence and burst equalization together in Broad Wide Access System, that is, before transferring user data, train the equalizer, then begin transferring user data, equalizer track the changing radio channel using the decision user data as reference; If the channel change exceeds the tracking range of equalizer, such as error rate exceeds threshold (1) but not exceeds threshold (2), then performing burst equalizing; If the channel change exceeds the range of equalizing for the equalizer, such as error rate exceeds the threshold (2), then perform training again. The present invention use the combination of pre-training and burst equalization, by setting different threshold to switch, greatly extend the time interval of pre-training process, reduce the number of pre-training, and increase the available band; the increased burst equalizing process greatly reduce the requirement for condition of system (for example, the time interval between statistic channel or burst is very short), which improve the applying occasion of product.

[见续页]



(57) 摘要

一种宽带无线接入系统的上行突发均衡方法，采用预训练与突发均衡相混合的方式，即在传输用户数据之前，对均衡器进行训练，然后开始发送用户数据，均衡器采用判决的用户数据作为参考，对变化的无线信道进行跟踪；如果信道变化超过均衡器的跟踪范围，如误码率超过门限 1 但没有超过门限 2，则进行突发均衡处理；如果信道变化超过均衡器的均衡范围，如误码率超过门限 2，则重新进行训练。本发明采用预训练与突发均衡结合的混合方式，通过设置不同的门限进行切换，使得预训练过程的时间间隔大大延长，减少了预训练的次数，提高了有效带宽；增加的突发均衡处理使得系统对工作场景（如静态信道或突发之间间隔很短）的要求大大降低，提高了产品的应用场景。